Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	**)**	
Request of PTC-220, LLC for Waivers of	**)**	**WT Docket No. 13-59**
Sections 90.729(b) and 90.723(f) of the	**)**	
Commission's Rules	**)**	

To: Chief, Wireless Telecommunications Bureau

REPLY COMMENTS OF THE NATIONAL RURAL TELECOMMUNICATIONS COOPERATIVE

The National Rural Telecommunications Cooperative ("NRTC")[1] hereby submits these Reply Comments in response to Comments filed by the Association of American Railroads ("AAR"), Southern California Regional Rail Authority ("SCRRA"), and Union Pacific Railroad ("UP") (together, the "Rail Commenters") regarding PTC-220, LLC's ("PTC-220's") Request for Waiver of Sections 90.729(b) and 90.723(f) of the Commission's rules. PTC-220 asks the Commission to grant it a waiver authorizing the use of significantly more power and higher antennas in the 220-222 MHz band for the purpose of facilitating the deployment of Positive Train Control ("PTC").[2] The 220-222 MHz band, however, is not allocated solely for PTC and already is heavily utilized by NRTC, its members and others for a variety of critical infrastructure applications – all of which stand to be undercut by PTC-220's proposed waiver.[3]

[1] NRTC is the manager and majority interest holder of NRTC LLC. NRTC LLC holds the following licenses in the 220 MHz band: (1) a 5-channel Phase I Nationwide license (WPCU 518); (2) a 10-channel Phase II Nationwide license (WPOI 700); (3) six 7-channel Phase II Regional licenses (WPOL 329-334); and (4) a 15-channel Phase II Regional license (WPOK 780). NRTC LLC incorporates these licenses into a network of twenty-two 5 kHz channels effectively covering the entire United States, including all of rural America.

[2] Public Notice, *The Wireless Telecommunications Bureau and the Office of Engineering and Technology Seek Comment on Waiver to Facilitate Deployment of Positive Train Control Systems*, WT Docket No. 13-59 (rel. Mar. 8, 2013) ("Public Notice").

[3] NRTC Comments at 3-4.

Each of the Rail Commenters describes the public interest benefits associated with PTC deployment. AAR (the trade association representing PTC-220's members), for example, states that the requested waiver "will minimize the risk that PTC-220 will need to obtain more spectrum to deploy PTC."[4] SCRRA (which has entered into a lease arrangement with PTC-220) states that grant of the waiver "would enable PTC-220 to increase network capacity."[5] UP (a member of PTC-220) states that the waiver will allow "network designers maximum flexibility in crafting an efficient network with optimum use of spectrum."[6]

NRTC does not dispute the public interest benefits of PTC or that the 220-222 MHz band is well-suited for PTC.[7] NRTC also recognizes the crucial role PTC plays in improving the safety and reliability of rail operations and has supported efforts to develop the band for PTC.[8] As described in its Comments, however, NRTC's concern is to ensure that *non*-PTC-220 licensees in the 220-222 MHz band are not unfairly disadvantaged by relief granted to a single

[4] AAR Comments at 2.

[5] SCRRA Comments at 3.

[6] UP Comments at 3.

[7] NRTC does question SCRRA's statement that "nine ERP/HAAT-constrained channels, only a maximum of three can be used simultaneously without adversely affecting performance under current network design parameters." The other Rail Commenters justify the requested waiver by asserting that the waiver is necessary to re-use existing infrastructure in place for railroad VHF land mobile operations. It is not clear what "performance" and "network design parameters" SCRRA is alluding to, and SCRRA should clarify this point particularly if the statement relates to interference between base stations.

[8] NRTC Comments at 7-8.

licensee, PTC-220, through the waiver process.[9] PTC-220's waiver would undermine the fundamental purpose of the 220-222 MHz band plan.[10]

NRTC provided an engineering analysis demonstrating the serious likelihood of harmful co-channel interference (attributable to the out-of-band emissions of the PTC-220 transmitter) and adjacent channel interference (resulting from strong adjacent channel signals overloading the receiver) to existing and future receivers in the band from high power/high site transmissions as proposed by PTC-220 if appropriate conditions were not placed on PTC-220's operations.[11]

PTC-220 suggests that any resulting interference can be addressed by relying on the distance separation and ERP limits contained in Sections 90.723(d)-(e) of the Commission's rules. As AAR recognizes, however, PTC is not the "deployment of an 'off-the-shelf' technology, but rather the creation of new tools, development of new software, procurement of technology, implementation of a series of multiple new systems, and installation of equipment."[12] PTC-220 has requested accommodations for a unique technology and should provide engineering data sufficient to allow the Commission and all potentially impacted third parties to determine with some degree of precision the interference potential from PTC-220's proposed operations.

There is no engineering information in the record on which the Commission could justifiably base a decision that the distance separations in Sections 90.723(d)-(e) are *ipso facto*

[9] SCRRA does not appear to be a member of PTC-220, but states that it has obtained use rights through a spectrum lease. It is clear that the waiver would not apply to entities, including railroads, operating in the 220-222 MHz band that do not acquire spectrum through PTC-220. It is not clear whether PTC-220's waiver request would apply to its non-member lessees and future assigns.

[10] I WAIT Radio v. FCC, 418 F.2d 1153, 1157 (D.C. Cir. 1969); *See also* Thomas Radio v. FCC, 716 F.2d 921 (D.C. Cir. 1983).

[11] NRTC Comments at Appendix II.

[12] AAR Comments at 3.

sufficient to prevent harmful interference from PTC-220 to non-PTC-220 users. NRTC's own analysis using reasonable engineering assumptions shows that interference is problematic unless the distance separations are substantially increased.[13]

NRTC also is concerned that grant of PTC-220's waiver would place unprecedented coordination conditions on NRTC and other 220 MHz licensees that did not exist at the time the licenses were acquired.[14] In NRTC's case, PTC-220's proposed coordination procedures apparently would require NRTC to coordinate *every* new base station deployed (not just those within specific geographic or spectral proximity to PTC-220's sites) and likely would delay deployment of new sites for nearly a year.[15]

The proposed coordination procedures allow PTC-220 to continue operating a potentially interfering site based on an undefined engineering analysis/measurement procedure and the distance separations contained in Sections 90.723(d)-(e). As NRTC has demonstrated, however, the distance separations contained in Sections 90.723(d)-(e) were designed for a completely different purpose and are insufficient to mitigate interference on the frequencies and under the circumstances at issue.[16]

On its face, PTC-220 has asked for more than it claims to need. Although PTC-220 has requested a nationwide waiver, its request and the comments of the Rail Commenters show that

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[13] NRTC Comments, Appendix II.

[14] PTC-220's waiver would tip what otherwise is a mutual coordination process under 90.723(f) significantly in PTC-220's favor. Under PTC-220's proposed coordination procedure, it would be permitted to delay the deployment of a non-PTC-220 user for a minimum of 270 days. In addition, PTC-220 would be permitted to decide unilaterally between several options, which may or may not mitigate the potential for interference.

[15] *See*, PTC-220 Waiver Request at 15. As PTC-220 holds area-wide licenses, specific location and other technical information regarding its sites will not be available for public review in ULS. The proposed mutual coordination process also would create considerable uncertainty and delay in the deployment new stations by other licensees and lessees on these frequencies, since PTC has not articulated the level of interference it is willing to accept.

[16] NRTC Comments at Appendix II.

the requested relief is only required in certain limited geographic areas. For example, SCRRA refers only to relief in Southern California.[17] UP references relief needed in three urban markets – Chicago, Kansas City, and St. Louis.[18] Grant of relief on a nationwide basis would not promote efficient spectrum utilization in any areas where additional capacity is not required for PTC.

UP argues that under the current rules the 221-222 MHz band "is of marginal usefulness to PTC."[19] AAR argues that "a waiver would … increase the capacity of the 220 MHz spectrum to serve more railroads…".[20] SCRAA says that "PTC-220 has made a strong showing that waiver of the power and antenna height limitations…would serve the public interest by enhancing its ability to implement PTC systems."[21] If the 220-222 MHz band were virgin spectrum, unencumbered by existing licensees, these types of arguments might be persuasive. Since that is not the case, however, these arguments are outweighed by the heavy burden PTC-220 proposes to place on NRTC and other licensees who successfully developed their systems in reliance on the current rules.

PTC-220 itself does not claim that the band is unusable for PTC absent grant of the existing waiver – only that additional sites may be required if deployment is to occur at 220-222 MHz. Rather than absorbing the additional expense and inconvenience itself, PTC-220 proposes to offload them to NRTC and others through the waiver process.[22]

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[17] SCCRA Comments at 4.

[18] UP Comments at 3.

[19] UP Comments at 4.

[20] AAR Comments at 2.

[21] SCRAA Comments at 3.

[22] PTC-220 Waiver Request at 21.

The Commission must ensure that special relief granted to a single licensee in the 220-222 MHz band does not negatively impact the long-standing investments of other licensees who relied on the Commission's existing rules in developing successful, growing systems in this band. Grant of the waiver would effectively give PTC-220 the power to decide whether and how NRTC and other 220 MHz licensees may deploy stations on their networks, in effect relegating them to secondary status. For these reasons, while NRTC generally supports the development of PTC and other new technologies in the 220-222 MHz band, it cannot support the PTC-220 waiver as proposed.

Respectfully submitted,

/s/

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April 23, 2013